Remarks

Claims 1-42 currently stand rejected. Claim 14 is canceled herein; thus, claims 1-13 and 15-42 remain pending. Claims 1, 18, 20, 23, 24, 27, 32 and 36 are amended herein. The Assignee respectfully traverses the rejections and requests allowance of claims 1-13 and 15-42.

Claim Amendments

Claim 1 is amended to incorporate the provision of claim 14, which provides for "connecting the data signal from the first wavelength to a third wavelength." In accordance with this amendment, claim 14 is canceled herein. Claims 18 and 32 are similarly amended.

Claims 20, 23, 24 and 27 are amended to provide for more acceptable Markush-type claiming.

Claim 36 is amended to eliminate a typographical error regarding an intended reference to the radio frequency signal, as opposed to the data signal, in conjunction with the radio frequency matrix.

Claim Rejection Under 35 U.S.C. § 102

Claims 1-5, 9, 18 and 32 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,751,417 to Combs et al. (hereinafter "Combs"). (Page 2 of the Office action.) The Assignee respectfully traverses the rejection in light of the current amendments to claims 1, 18 and 32, and also in view of the following discussion.

Amended claim 1 provides "[a] method for transmitting signals," which includes "transmitting a data signal over a first wavelength on a single fiber strand; transmitting a radio frequency signal over a second wavelength on the same single fiber strand; and *connecting the data signal from the first wavelength to a third wavelength.*" (Emphasis supplied.) Claims 18 and 32 are similarly amended.

Combs, which generally "provides a new architecture for a communication system between head-ends and end-users" (abstract), discusses transfer of digital and analog signals between head-ends and end-users by way of "mux-nodes" and "mini-fiber nodes" coupled therebetween via optical fiber trunks. (Fig. 1; and column 3, line 35, to column 4, line 30.) However, Combs does not teach or suggest connecting a data signal from one wavelength to

another.

In reference to claim 14, from which the connecting provision was imported into amended claim 1, the Office action indicates that U.S. Patent No. 6,477,154 to Cheong et al. (hereinafter "Cheong"), in combination with Combs, "disclosed cross-connecting data or radio frequencies between wavelengths or paths (e.g., Cheong, col./line: 4/1-25. 6/15-25)." (Page 5 of the Office action.) The Assignee respectfully disagrees. In Cheong, which generally discloses "[a] microcellular mobile communication system" (abstract), an optical fiber or a hybrid fiber coaxial (HFC) network is used to couple a micro base station controller (mBSC) 101 with one or more micro base stations (mBS) 102. (Fig. 1; and column 4, lines 1-29.) As shown in Figs. 2 and 6, an optical splitter (in the case of optical fiber) or an optical node (in the case of an HFC network) 214, 413 carries an optical RF signal to each mBS 415, 421, 422. (Column 5, lines 27-36; and column 8, lines 33-51.) Each optical RF signal is transmitted from an electrical-to-optical (E/O) 213 converter to an optical splitter or node 214 at a separate wavelength for distribution toward each mBS (Fig. 2; column 6, lines 16-27), or from an optical node or splitter 413 to one or more optical-to-electrical converters 412, 419 (Fig. 6; column 8, lines 34-51). However, Cheong does not teach or suggest connecting a *data* signal (as opposed to an RF signal) *from one wavelength to another, different wavelength*, as provided for in amended claim 1, as each optical RF signal being transmitted in Cheong is maintained at the same wavelength throughout the optical path.

Thus, based on the foregoing, the Assignee contends that claims 1, 18 and 32 are allowable in view of any combination of Combs and Cheong, and such indication is respectfully requested.

Claims 2-5 and 9 depend from independent claim 1, and thus incorporate the provisions of that claim. Thus, the Assignee asserts that claims 2-5 and 9 are allowable for at least the same reasons provided above in support of claim 1, and such indication is respectfully requested.

Therefore, in view of the above, the Assignee respectfully requests withdrawal of the 35 U.S.C. § 102 rejection of claims 1-5, 9, 18 and 32.

Claim Rejections Under 35 U.S.C. § 103

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Combs in view of U.S. Patent No. 6,104,513 to Bloom. Also, claims 7, 8, 10-12, 14-17, 19-31 and 33-42

stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combs in view of Cheong. Finally, claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Combs in view of Cheong and U.S. Patent No. 6,223,055 to Cyr. The Assignee respectfully traverses the rejections, as discussed below.

Claims 6-8, 10-12 and 15-17 depend from independent claim 1, and thus incorporate the provisions of that claim. As a result, the Assignee asserts that claims 6-8, 10-12 and 15-17 are allowable for at least the reasons provided above regarding amended claim 1, and such indication is respectfully requested.

Claim 14 is canceled herein, thus rendering moot the rejection as it pertains to that claim.

As to claims 19 and 33, independent claim 19 provides "[a] system for transmitting signals" that includes "a first node configured to transmit a data signal over a first wavelength on a single fiber strand and a radio frequency signal over a second wavelength on the same single fiber strand; and a second node configured to receive the data signal over the first wavelength and the radio frequency signal over the second wavelength." Also, independent claim 33 provides another system for transmitting signals that includes "a data matrix configured to transmit a data signal over a first wavelength on a single fiber strand; and a radio frequency matrix configured to transmit a radio frequency signal over a second wavelength on the same single fiber strand."

The Office action indicates that "Combs does not disclose a first and second node transmitting data and radio frequency signals exactly as claimed. However, Cheong does disclose that the individual nodes, e.g., (109-1) and (109-2) transmit the data and RF signals over different wavelengths." (Page 5 of the Office action.) The Assignee respectfully disagrees with this allegation. In Fig. 2, Cheong discloses an optical path from E/O converters 213, 219, 224 to the optical splitter or node 214, as described above. (Fig. 2; column 6, lines 16-27.) Similarly, Fig. 6 shows a reverse link from an optical splitter or node 413 to multiple O/E converters 412, 419. (Fig. 6; column 8, lines 34-51) In either case, the optical signals are RF signals associated with particular wavelengths λ_1, λ_2, λ_3. (Figs. 2 and 6; and column 6, lines 16-27.) Also, *electrical intermediate frequency* (IF) signals IF_{f11}, IF_{r11}, and so on, are transferred between the E/O converters 213, 219, 224 or the O/E converters 412, 419 and other portions of the system, such as the transceiver blocks (XCVB) 207, 407 via an IF frequency combiner 211 or band pass filter 411 of Figs. 2 and 6. (See column 5, lines 15-26; and column 8, lines 46-51.) Thus,

Cheong does not teach or suggest nodes that transmit or receive *data and RF signals over the same fiber strand* or connection, as provided for in claim 19, regardless of the frequency. Thus, the Assignee contends claim 19 is allowable in view of any combination of Combs and Cheong, and such indication is respectfully requested.

Moreover, regarding claim 33, Cheong does not teach or suggest a data matrix or radio frequency matrix. As set forth in the present application, a data matrix "cross-connects data signals over one or more wavelengths in a single fiber or over one or more fibers." (Page 7, lines 21 and 22.) Similarly, an RF matrix performs a similar function with RF signals. (Page 8, lines 12 and 13.) Cheong converts IF signals to RF signals, and vice-versa, as described above, but does not teach or suggest a cross-connect function, as provided for in claim 33, in any of its embodiments. Thus, the Assignee contends claim 33 is allowable in view of any combination of Combs and Cheong, and such indication is respectfully requested.

Claims 20-31 depend from independent claim 19, and claims 34-42 depend from independent claim 33, thus incorporating the limitations of their corresponding independent claims. Accordingly, the Assignee asserts claims 20-31 and 34-42 are allowable for at least the reasons provided above in support of claims 19 and 33, and such indication is respectfully requested.

Therefore, as a result of the foregoing discussion, the Assignee respectfully requests that the 35 U.S.C. § 103 rejections of claims 6-8, 10-17, 19-31 and 33-42 be withdrawn.

Conclusion

Based on the above remarks, the Assignee submits that claims 1-13 and 15-42 are allowable. Additional reasons in support of patentability exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee thus respectfully requests allowance of claims 1-13 and 15-42.

The Assignee believes no additional fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

Date: 11/29/05

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